

User's Manual
Of
TM2000D-1B
GSM/PSTN Wireless Terminal



(Version: 5.05 or up)



Guangzhou Creator Communications Co., Ltd.

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I. Safety Instructions

Please read these guidelines and follow the instructions on GSM Terminal and its user's manual. Breaking the rules may be dangerous or illegal.

1. The GSM Terminal can be only used indoors, avoid using in environment with humidity, high temperature or dust.
2. Please do not inject any liquid into the GSM Terminal, or it will harm the GSM Terminal seriously;
3. Please use the power adaptor and battery provided by the supplier.
4. This GSM terminal shall be avoided using beside some equipment such as pacemaker and audio phone which is sensitive to external RF signals in the medical treatment sites.
5. This terminal shall not be used at garage, oil storage, chemical plant or inflammable or explosive substance; Please notes the alarm indications in these sites;
6. When it is used, please do not touch the antenna; Otherwise, it will effect the voice quality, or making the equipment power surpassing the normal application range and damage the equipment;
7. Don't disassemble the unit by yourself. If there is any faults, please contact the supplier;
8. If the rechargeable battery is broken or there is any acid liquid to spray to your dress or skin, please wash with more water
9. The length of telephone line between telephone and terminal shall not more than 100m.

Unpack the Package and Check List

Once you unpack your terminal package, please check for the following items. In case any item is found missing, please contact the provider of terminal.

Main unit of terminal.....	1
Adapter.....	1
Antenna.....	1
Common telephone line.....	1
Grey 4-pin telephone line.....	2 or another 1 common telephone line
Screws.....	1 pack
User's manual.....	1

The two grey 4-pin telephone lines are ready for connecting telephone. If there is no grey telephone line provided with the terminal. There shall be another common telephone line. Use it to connect telephone and terminal. If there are two grey 4-pin lines provided, they can not be replaced by other common telephone line.

II. Overview

2.1 Main Features

- Be applicable to GSM850/900/1800/1900 MHz network;
- Use high gain external antenna with high signal sensitivity
- LCD display, menu operation interface, easy operation
- Display Caller ID
- Incoming call answering setting
- Barred number setting
- Auto add local city code
- Conveniently choose GSM or PSTN

2.2 Main Unit Sketch and Illustrations

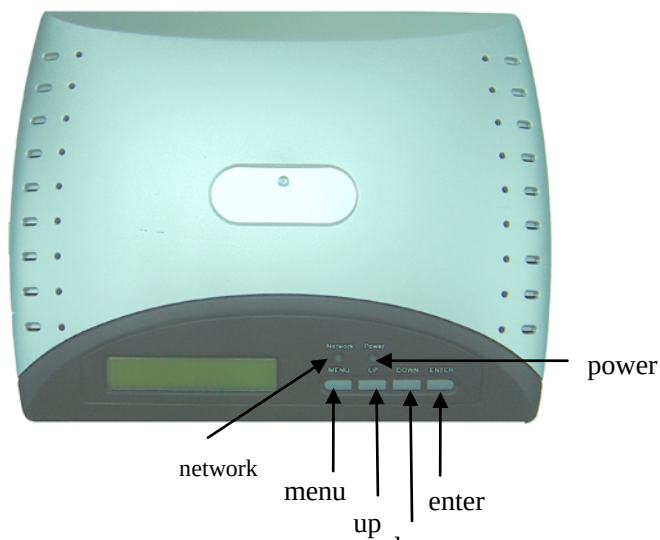


Figure 1: front view of the main unit

The main unit front view illustration:

FCT position: (From “Up” to “Down”, from left to right)

Network light(NETWORK LED)- Green light, one flash means equipment has already login the network; If it is always on or always off, it shows the equipment does not login the network or perhaps the equipments has already dropped from the network;

The power supply light (POWER LED)- Red light, it is on if there is power supply;

MENU-menu key, press this key into the main menu in the status of “Standby”, press this key in the submenu to return last level of menu;

UP- To move up the cursor or to increase the number;

DOWN- To move down the cursor or to reduce the number;

ENTER-To confirm, choose menu items needed and press this key to enter that menu.

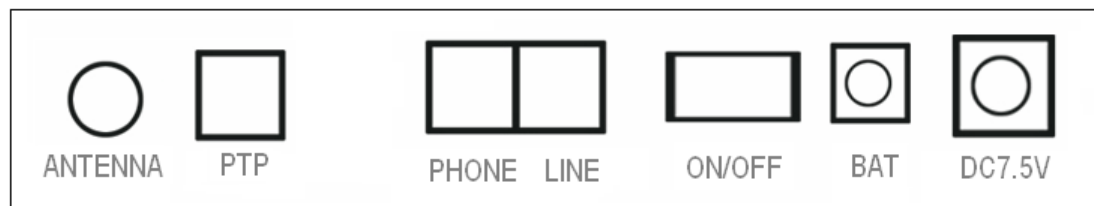


Figure 2: Back view of the main unit

Function of each port is as follows:

Antenna: Connect to the antenna;

PTP: Reserved

PHONE: Can connect to common telephone

LINE: CONNECT to PSTN

ON/OFF: Power switch;

BAT: Connect to backup battery;

DC 7.5V: Connect to the power supply dedicated adaptor;

III Working mode

3.1 There are two types of working mode: GSM only and GSM/PSTN

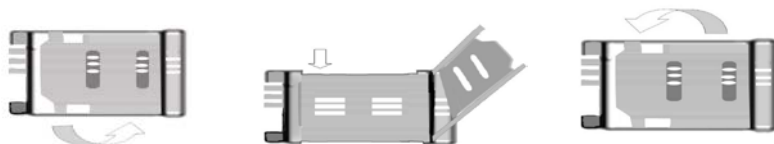
3.2 GSM mode: In this mode, LCD displays “GSM” on the right. Outgoing calls and incoming calls can only go or come via GSM network.

3.3 PSTN/GSM mode: In this mode, LCD displays “PSTN/GSM”. Calls can go or income via PSTN or GSM.

Note: When there is no power supply, all calls will be sent out via PSTN.

IV Installation

4.1 Install SIM Card



Proceed as follows:

Step 1: Screw off the screw of SIM card case, and open the cover.

Step 2: Slide back the SIM door and lift it up

Step 3: Slide the SIM card into the SIM door making sure that the clipped corner of the SIM card lines up with the clipped corner of the SIM card holder

Step 4: Close the SIM card holder and slide it to lock the SIM card in place.

Step 5: Replace the cover of SIM card case and fix it with a screw.

4.2 Install and turn on terminal

Step 1: Install SIM card

Step 2: Connect common telephone to terminal’s “PHONE” port with the provided telephone line.

Step 3: Connect PSTN to terminal’s “LINE” port with the provided telephone line

Step 4: Install antenna and adaptor. Antenna shall be place 1.5m or more away from terminal to get good tone quantity.

Step 5: Connect adaptor to external power supply, turn power switch to on side.

About 10-45 seconds later, terminal will finish initialization and send a ring to the connected phone. The real initializing time is subject to local network.

V. Operation

5.1 Inquire and Display Signal Quality and Version Information

5.1.1 If the connected telephone has the function of displaying incoming calls' telephone numbers, the telephone rings and a code of 8 digits should be displayed as soon as terminal logs into GSM network successfully.

5.1.2 Lift the handset and then dial “***9#”. Hang up as soon as you hear busy tone. The telephone rings and displays a code of 8 digits.

5.1.3 The code indicates the information about signal quality, malfunctions and software version as follows:

The first two digits indicate signal quality. It ranges from “00” to “31”. Stronger the signal is, bigger the digits is. If it is less than 10, voice quality is poor. Signal quality is indicated on LCD too.

The third and the fourth digit are malfunction code:

“00”: good	“11”: failed in login onto GSM network
“22” or “33”: PIN error (PIN code isn't 1234 or PIN code isn't disabled),	
“44”: locking SIM card	“55”: locking terminal
“77”: locking GSM network	“99”: reading SIM card error

The later four digits are software version code.

If the telephone displays malfunction code is “11”, “22”, “33”, “44”, “77” or “99”, terminal could not work normally, please contact the service provider.

5.2 Making Calls

5.2.1 Terminal Auto Chooses Sending out Route

Step 1: Lift the handset or press “hand-free” key, you will hear dialling tone, then you can make calls you want to.

Step 2: Dialling: dial telephone numbers.

Step 3: On completion of dialled digits, you can press “#” to send the numbers at once. If you don't dial any key for continual 6 seconds during dialling, the terminal will send the dialled telephone number.

The terminal chooses sending out route according to the inner setting of the terminal (The setting is done by the terminal's distributors. If there is any question, please contact them). Users can choose sending out route manually, please refer to “**5.2.2 Choose send out route by hand**” to get more details.

5.2.2 Choose Sending out Route by Hand

Please make sure terminal is working in PSTN/GSM mode (PSTN/GSM displays on LCD)

5.2.2.1 Choose PSTN: Pick up handset or press hand-free, dialling tone will be heard. Dial “***1”,

another dialing tone will be heard again. Dial telephone number and then press “#” to send. The call will be sent out via PSTN network.

5.2.2.2 Choose GSM: Pick up handset or press hand-free, dialing tone will be heard. Dial “**0”, another dialing tone will be heard again. Dial telephone number and then press “#” to send. The call will be sent out via GSM network.

5.3 Answer Incoming Calls.

5.3.1 In GSM mode, users can only call the GSM telephone number of terminal. In PSTN/GSM mode, Both GSM telephone number and PSTN telephone number are available.

5.3.2 When a call is incoming, if the connected telephone has the function of displaying Caller ID, the telephone rings and displays the incoming call’s number. Now users can lift the handset or press “hand-free” to answer it.

5.3.3 Indication for new incoming call during a call:

In PSTN/GSM mode, while GSM network is used for an incoming call, user will hear “toot” indicating voice for another new incoming call to PSTN network. User can hang up the current telephone and then answer the new incoming one, Vice-versa.

VI Adjust Volume

Lift the handset or press “Hand Free” key of the connected telephone. Dial “*33XY#” when hearing dialing tone, and then hang up when hearing the sound of toot.

X and Y both belong to the digits that range from 1 to 5. X indicates microphone volume. Y indicates speaker volume. To both X and Y, level 1 is the lowest volume and level 5 is the highest one.

VII Settings

7.1 Setup Working Mode and Sending Mode

7.1.1 Setup Working Mode

Step 1: In standby status, press “MENU”. LCD displays “MAINTENANCE” in the first line and “4. WORK MODE” in the second line.

Step 2: Press “ENTER”, LCD displays “WORK MODE” in the first line and the current working mode “SIGLE: GSM” or “ DUAL:PSTN/GMS” in the second line.

Step 3: Press “UP” or “DOWN” to choose working mode. Press “ENTER” to confirm the setting and return to menu “MAINTENANCE”.

Step 4: Press “UP” or “DOWN” to select menu “4. EXIT”, then press “ENTER” to back to standby status.

7.1.2 Telephone Line’s Polarity Setting:

This feature is reserved.

7.1.3 Sending mode setting

Step 1: In standby status, press “MENU”. LCD displays “MAINTENANCE” in the first line and “4. WORK MODE” in the second line.

Step 2: Press “DOWN” to the next menu item “3: SEND FLAG”. Press “ENTER” to access this item. LCD displays “SEND FLAG” in the first line and the current sending mode “PRESS # TO SEND” or “WAIT 5S TO SEND” in the second line.

Step 3: Press “UP” or “DOWN” to select sending mode.

Sending mode only works for the outgoing calls via GSM network.

PRESS # TO SEND: During dialing, if users press “#”, terminal sends out the dialed number immediately.

WAIT 5S TO SEND: During dialing, if users press “#”, terminal recognizes “#” as an input code. Terminal sends out the dialed number when there is no any dialing within continuous 5 seconds. Terminal will deal with the dialed number according of fast sending table if there is any.

Step 4: Press “UP” or “DOWN” to choose working mode. Press “ENTER” to confirm the setting and return to menu “MAINTENANCE”.

Step 5: Press “UP” or “DOWN” to select menu “4. EXIT”, then press “ENTER” to back to standby status.

7.2 Set up Fast Sending List

This list only works for the outgoing calls via GSM network. 50 entries code can be set up and the length of each code is no more than 9.

Step 1: In standby status, press “MENU”. LCD displays “MAINTENANCE” in the first line and “4. WORK MODE” in the second line.

Step 2: Press “DOWN” to the menu item “4. GSM SEND LEN”. Press “ENTER” to access this item. LCD display “GSM SEND LEN—XX” in the first line and code and code’s length in the second line. If the code and code’s length is displayed as “**** X”, the default length will be X.

XX is the serial number. For example, LCD displays “GSM SEND LEN—01” and “186 4”. This is the first item in this table. The dialed number beginning with “186” will be sent out when 4 digits is input.

Step 3: Press “UP” or “DOWN” to view this list.

Step 4: Add new item: During view the list, press “ENTER”. LCD will display “ADD DIAL LEN”. At this status, user can add new item into this list:

Pick up handset, input “code” + “#” + “code’s length” + “#”. For example, set up code as “0200” and code’s length as “12”. Pick up handset and then input “0200#12#”.

The second line of LCD will be cleared and users can input the second new item.

Step 5: Delete item: During adding new item, press “ENTER”, LCD will display “DEL DIAL LEN”. At this item, users can delete the existing item.

Pick up handset, input “code” + “#”. For example to delete code “0200”, just pick up handset and then input “0200#”. The second line of LCD will be cleared and users can delete other item Input “****#” to delete the whole list.

Step 6: During deleting item, press “ENTER” to return to view list.

Step 7: Press “MENU” to back to main menu.

7.3 Set up Outgoing Call’s Route

This setting is used to specify some calls to be sent out via GSM network. 30 codes can be set up at most. The length of code is no more than 10. All the telephone number that begins with any one of the codes will be sent out via GSM network.

Step 1: In standby status, press “MENU”. LCD displays “MAINTENANCE” in the first line and “4. WORK MODE” in the second line.

Step 2: Press “UP” or “DOWN” to menu “5. GSM DIAL CODE”. Press “ENTER” to access this menu. LCD displays “GSM DIAL CODE” in the first line and code in the second line. Press “UP” and “DOWN” to view all codes.

Step 3: Add new code: During view the code, press “ENTER”. LCD will display “ADD”. At this status, user can add new code:

Pick up handset, input “code” + “#”. For example, add code “0200”. Pick up handset and then input “0200#”.

The second line of LCD will be cleared and users can add another new code.

Step 4: Delete code: During adding new code, press “ENTER”, LCD will display “DEL”. At this item, users can delete the existing code.

Pick up handset, input “code” + “#”. For example to delete code “0200”, just pick up handset and then input “0200#”. The second line of LCD will be cleared and users can delete another code. Input “***#” to delete all the codes.

Step 5: During deleting code, press “ENTER” to return to view code.

Step 6: Press “MENU” to back to main menu.

7.4 Set up Convert Code

This list only works for the outgoing calls via GSM network. 120 entries code can be set up and the length of each code is no more than 7.

Step 1: In standby status, press “MENU”. LCD displays “MAINTENANCE” in the first line and “4. WORK MODE” in the second line.

Step 2: Press “UP” or “DOWN” to menu “7. CONVERT CODE”. Press “ENTER” to access this menu. LCD displays “CONVERT CODE” in the first line and code in the second line. For example, the second line displays “0 ->179510”. Terminal will convert “0” to “179510” and then send it if the dialed number begin with “0” and send out via GSM network. Press “UP” and “DOWN” to view all codes.

Step 3: During view the list, press “ENTER” to add new convert code.

Pick up handset, input “code 1” + “#” + “code 2” + “#”. For example, set up “099” to be converted to “9”. Pick up handset and then input “099#9#”.

The second line of LCD will be cleared and users can add another new code.

Step 4: Delete code: During adding new code, press “ENTER”, LCD will display “DEL CONVERT CODE”. At this item, users can delete the existing code.

Pick up handset, input “code 1” + “#”. For example to delete convert code “0200”, just pick up handset and then input “0200#”. The second line of LCD will be cleared and users can delete another code. Input “***#” to delete all the codes.

Step 5: During deleting code, press “ENTER” to return to view code.

Step 6: Press “MENU” to back to main menu.

VIII Technical Specifications

The optional parameters are not available to all the time. Please refer to the terminal’s provider to get more details.

8.1 GSM Parameters

Frequency bands GSM900/1800/1900 MHz

Frequency stability <2.5ppm
Receiver sensitivity < -103dBm
Transmit power <2W(900MHz), <1W (1800MHz)
SIM card Interface 3V
Antenna impedance 50Ω

8.2 Power Supply

AC input voltage 170V~300V AC
Power adaptor output DC7.5V/1.5A
Battery 6V/4AH Lead-Acid battery (optional)
Max. charging current 600MA
DC input voltage range 7.5V~10V DC
Max. working current 1000mA (Excluding charger current)

8.3 Application Environment

Operating temperature: 0~+45 °C
Relative humidity: 10%~95%
Environment noise ≤60dB(A)
Atmospheric pressure 86~106kPa

IX Troubleshooting

Trouble Phenomena	Trouble	Troubleshooting
Network indicator stay lit in a long time	Terminal is Off-line	Please restart terminal
“Power” indicator isn’t lit	1. Power adapter hasn’t been installed well.	Make sure power adapter is installed well.
	2.Trouble on power adapter	Please contact service provider
Only free numbers can be called out	The residual money on SIM card is too little to make calls	Please recharge SIM card
Can’t hear sound during calls	The malfunction on the connected telephone	Change the connected telephone with a good one
Poor voice quality during calls or there is echo during calls	1.The voice volume is too high	Adjust voice volume to be lower
	2.Mutual jamming among terminal, antenna and the connected telephone	Make the distance among three of them be longer.
	3.Local signal is too weak	Please move terminal and antenna to the place where signal is stronger.
	4.Poor voice quality of the connected telephone	Please change a telephone
No ringing sound when some calls are coming in.	1.The malfunction on the connected telephone	Change a telephone please
	2. Malfunction on terminal	Please contact service provider
Incoming calls can’t be answered	1. The connected telephone does not match the terminal	Chang the connected telephone with a suitable one.
	2.Forbidding answering incoming calls has been set up	Please contact the service provider.